

**SYSTEM AND SOFTWARE FOR DATA COLLECTION AND PROCESS CONTROL  
IN SEMICONDUCTOR MANUFACTURING AND METHOD THEREOF**

**ABSTRACT OF THE DISCLOSURE**

In its various embodiments, the method collects data from process and metrology tools in  
5 a semiconductor manufacturing environment, generates statistics from that data, detects tool  
failures, processing errors, and other conditions that can jeopardize product output, and performs  
high level process control in the form of tool shutdowns, lot holds, and lot releases. One method  
as disclosed automates the collection and recording of data from process and metrology tools,  
automates configuration of data collection, and automates process equipment shut downs, all  
10 within the existing framework of existing MES systems and engineering data collection systems.  
Automation of configurations and data collection is conducted by creation of data collection  
plans, data collection capability specifications, and other versioned documents within a process  
control and data collection system as disclosed herein. These versioned documents may be  
generated through a common graphical user interface and presented via an Internet web browser  
15 or other network interface.